

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

CIRBA INC. (d/b/a DENSIFY)
and CIRBA IP, INC.,

Plaintiffs,

v.

VMWARE, INC.,

Defendant.

C.A. No. 19-742-LPS

**DEFENDANT'S OPENING BRIEF IN SUPPORT OF
ITS MOTION TO DISMISS CLAIM I OF THE FIRST AMENDED COMPLAINT
PURSUANT TO FED. R. CIV. P. 12(B)(6) AND 35 U.S.C. § 101**

Dated: July 2, 2019

OF COUNSEL:

Michael A. Jacobs
Richard S. J. Hung
MORRISON & FOERSTER LLP
425 Market Street
San Francisco, CA 94105
(415) 268-7000
mjacobs@mofo.com
rhung@mofo.com

Bitra Rahebi
MORRISON & FOERSTER LLP
707 Wilshire Boulevard
Los Angeles, CA 90017
(213) 892-5200
brahebi@mofo.com

Scott F. Llewellyn
MORRISON & FOERSTER LLP
4200 Republic Plaza
370 Seventeenth Street
Denver, CO 80202-5638
(303) 592-2204
sllewellyn@mofo.com

YOUNG CONAWAY STARGATT &
TAYLOR, LLP

Anne Shea Gaza (No. 4093)
Samantha G. Wilson (No. 5816)
Rodney Square
1000 North King Street
Wilmington, DE 19801
(302) 571-6600
agaza@ycst.com
swilson@ycst.com

Attorneys for VMware, Inc.

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. NATURE AND STAGE OF PROCEEDINGS	2
III. SUMMARY OF ARGUMENT	3
IV. STATEMENT OF FACTS	3
A. The '687 Patent	3
B. Representative Claim 7	4
C. Other Claims	6
V. LEGAL STANDARD.....	6
VI. ARGUMENT.....	7
A. The Asserted Claims of the '687 Patent Are Directed to an Abstract Idea.	7
1. The asserted claims are directed to the abstract idea of collecting and analyzing data.....	7
2. The claims are not directed to improving computer functionality.....	9
3. The fact that the claims can be performed mentally or with a pencil and paper confirms that they are directed to an abstract idea.	11
B. The '687 Patent Claims Do Not Include an Inventive Concept.....	13
1. The claims' use of general-purpose computer components in conventional ways is not inventive.	13
2. Limiting the abstract idea to the technological context of virtualized computer systems does not provide an inventive concept.	15
C. Cirba's Conclusory Allegations Cannot Satisfy Alice Steps 1 and 2.	16
VII. CONCLUSION.....	20

TABLE OF AUTHORITIES

Page(s)

Cases

<i>Advanced Microscopy, Inc. v. Thermo Fisher Sci.,</i> No.15-1022-LPS (D. Del.).....	2
<i>Affinity Labs of Tex., LLC v. DIRECTV, LLC,</i> 838 F.3d 1253 (Fed. Cir. 2016).....	15, 16
<i>Alice Corporation v. CLS Bank International,</i> 573 U.S. 208 (2014).....	<i>passim</i>
<i>Bancorp Servs., LLC v. Sun Life Assurance Co. of Can. (U.S.),</i> 687 F.3d 1266 (Fed. Cir. 2012).....	7, 13, 19
<i>BSG Tech LLC v. Buyseasons, Inc.</i> 899 F.3d 1281 (Fed. Cir. 2018)	16
<i>Cellspin Soft, Inc. v. Fitbit, Inc.,</i> No. 2018-1817, 2019 WL 02588278 (Fed. Cir. June 25, 2019).....	17
<i>ChargePoint, Inc. v. SemaConnect, Inc.,</i> 920 F.3d 759 (Fed. Cir. 2019).....	16
<i>Citrix Sys., Inc. v. Avi Networks, Inc.,</i> 363 F. Supp. 3d 511 (D. Del. 2019).....	<i>passim</i>
<i>Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.,</i> 776 F.3d 1343 (Fed. Cir. 2014).....	9, 14
<i>Credit Acceptance Corp. v. Westlake Servs.,</i> 859 F.3d 1044 (Fed. Cir. 2017).....	10, 13
<i>CyberSource Corp. v. Retail Decisions, Inc.,</i> 654 F.3d 1366 (Fed. Cir. 2011).....	12
<i>Elec. Power Grp., LLC v. Alstom S.A.,</i> 830 F.3d 1350 (Fed. Cir. 2016).....	<i>passim</i>
<i>FairWarning IP, LLC v. Iatric Sys., Inc.,</i> 839 F.3d 1089 (Fed. Cir. 2016).....	9, 12, 13

TABLE OF AUTHORITIES

(continued)

	<u>Page(s)</u>
<i>Gortat v. Capala Bros.</i> , 257 F.R.D. 353 (E.D.N.Y. 2009)	2
<i>Hearts Bluff Game Ranch, Inc. v. United States</i> , 669 F.3d 1326 (Fed. Cir. 2012).....	17
<i>Intellectual Ventures I LLC v. Capital One Bank (USA)</i> , 792 F.3d 1363 (Fed. Cir. 2015).....	10
<i>Intellectual Ventures I LLC v. Capital One Fin. Corp.</i> , 850 F.3d 1332 (Fed. Cir. 2017).....	9
<i>Intellectual Ventures I LLC v. Erie Indem. Co.</i> , 711 F. App'x 1012 (Fed. Cir. 2017)	18
<i>Interval Licensing LLC v. AOL, Inc.</i> , 896 F.3d 1335 (Fed. Cir. 2018).....	8
<i>IPA Techs. v. Amazon.com, Inc.</i> , 352 F. Supp. 3d 335 (D. Del. 2019).....	17, 18, 19
<i>M2M Sols. LLC v. Amazon.com, Inc.</i> , No. 17-202-LPS-CJB, 2017 WL 6294874 (D. Del. Dec. 11, 2017).....	7
<i>Parker v. Flook</i> , 437 U.S. 584 (1978).....	13
<i>Princeton Dig. Image Corp. v. UbiSoft Entm't SA</i> , No. 13-335-LPS (D. Del.).....	2
<i>RecogniCorp, LLC v. Nintendo Co.</i> , 855 F.3d 1322 (Fed. Cir. 2017).....	18
<i>SAP Am., Inc. v. Investpic, LLC</i> , 898 F.3d 1161 (Fed. Cir. 2018).....	7, 9, 14, 16
<i>Search & Soc. Media Partners, LLC v. Facebook, Inc.</i> , 346 F. Supp. 3d 626 (D. Del. 2018), <i>reconsideration denied</i> , 2019 WL 581616 (D. Del. Feb. 13, 2019)	8, 16
<i>Secured Mail Sols. LLC v. Universal Wilde, Inc.</i> , 873 F.3d 905 (Fed. Cir. 2017).....	7

TABLE OF AUTHORITIES
(continued)

	<u>Page(s)</u>
<i>Smart Sys. Innovations, LLC v. Chicago Transit Auth.</i> , 873 F.3d 1364 (Fed. Cir. 2017).....	14
<i>Synopsys, Inc. v. Mentor Graphics Corp.</i> , 839 F.3d 1138 (Fed. Cir. 2016).....	10, 12
<i>In re TLI Commc’ns LLC Patent Litig.</i> , 823 F.3d 607 (Fed. Cir. 2016).....	11, 14
<i>Trading Techs. Int’l, Inc. v. IBG LLC</i> , 921 F.3d 1378 (Fed. Cir. 2019)	7, 13, 16
<i>Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC</i> , 874 F.3d 1329 (Fed. Cir. 2017).....	14
<i>Ultramercial Inc. v. Hulu, LLC</i> , 772 F.3d 709 (Fed. Cir. 2014).....	13
<i>Uniloc USA, Inc. v. ADP, LLC</i> , No. 2018-1132, 2019 WL 2245938 (Fed. Cir. May 24, 2019)	<i>passim</i>
 Statutes	
35 U.S.C. § 101	<i>passim</i>
 Other Authorities	
Fed. R. Civ. P.	
12(a)(4)(A)	2
12(b)(6)	7

I. INTRODUCTION

Plaintiffs Cirba, Inc. (d/b/a Densify) and Cirba IP, Inc. (collectively, “Cirba”) have moved to enjoin VMware’s alleged infringement of claims 2, 7, 13, and 16 of U.S. Patent No. 8,209,687 (“’687 patent,” D.I. 1-1, Ex. 12). (D.I. 11.) Because the ’687 patent is directed to ineligible subject matter under 35 U.S.C. § 101, the Court should dismiss Cirba’s claim for infringement of the ’687 patent and deny Cirba’s preliminary injunction motion as moot.

The ’687 patent fails both prongs of the Supreme Court’s two-part test in *Alice Corporation v. CLS Bank International*, 573 U.S. 208 (2014). Under *Alice* Step 1, the claims of the ’687 patent are directed to the abstract idea of collecting and analyzing information. The claims recite their steps only abstractly, using computers as tools in the context of virtualization, without specifying how to accomplish those steps. That one can perform all claim steps mentally or using only pen and paper confirms their abstract nature.

Under *Alice* Step 2, the claims of the ’687 patent lack an inventive concept that might transform the abstract idea of collecting and analyzing data into a patent-eligible invention. The claims rely only on vague, functional descriptions of generic computer components for implementing the recited steps in conventional ways. Even if applying the claims to the specific context of virtual computer systems were unconventional—and the specification confirms it is not, a new context could not alone render the claims patent-eligible.

The claims here are on all fours with the claims at issue in the Federal Circuit’s *Electric Power* decision, which held those claims invalid under Section 101. There, as here, the claims were directed to “collecting information, analyzing it, and displaying certain results of the collection and analysis.” *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). Cirba’s recent amendments to its complaint do not change this analysis, as they are not specific, concrete, plausible, and adequate factual allegations under *Alice* Step 1 or Step 2.

Instead, Cirba's amendments are merely conclusory allegations that the relevant legal standards are satisfied.

II. NATURE AND STAGE OF PROCEEDINGS

On April 25, 2019, Cirba brought this action against VMware for allegedly infringing two patents (the '687 patent and U.S. Patent No. 9,654,367) and certain purported trademarks. (D.I. 1.) On May 6, 2019, Cirba moved for a preliminary injunction based only on the alleged infringement of claims 2, 7, 13, and 16 of the '687 patent.¹ (D.I. 11.) In its supporting brief, Cirba stated that (a) claim 7 is "illustrative;" (b) claims 2, 13, and 16 have "the same functionality described for claim 7;" and (c) "no formal claim construction is necessary because the claims of the patent use clear technical terms that all should be accorded their plain and ordinary meaning." (D.I. 12 at 12, 14, 16.)

On June 7, 2019, VMware moved under Section 101 to dismiss Cirba's claim for infringement of the '687 patent (D.I. 46), which the Court had previously ordered would "be argued at the same hearing as Plaintiff's [preliminary injunction] motion" (D.I. 38).² On June 18, Cirba filed its First Amended Complaint, again alleging in Count I that VMware infringes "at least, but not limited to, claim 7" of the '687 patent. (D.I. 68 ("FAC")) ¶¶ 69, 78, 99.) VMware

¹ As the '687 patent is the sole basis for Cirba's preliminary injunction motion, VMware addresses only that patent in this motion. VMware believes that the other asserted patent is ineligible under Section 101 and expects to seek relief on that issue at the appropriate time.

² VMware's former and current motions to dismiss suspend the time to respond to claims in the Complaint not addressed by those motions, consistent with this District's precedent. *See* Fed. R. Civ. P. 12(a)(4)(A); *Advanced Microscopy, Inc. v. Thermo Fisher Sci.*, No.15-1022-LPS (D. Del. Jan. 8, 2016) (partial motion to dismiss and accompanying brief filed at D.I. 12 & D.I. 13, respectively; no Answer filed) (docket attached hereto as Ex. A); *Princeton Dig. Image Corp. v. UbiSoft Entm't SA*, No. 13-335-LPS (D. Del. May 7, 2013) (partial motion to dismiss and accompanying brief filed at D.I. 4 & D.I. 5, respectively; Answer filed at D.I. 9, after First Amended Complaint (D.I. 8)) (Ex. B (docket excerpt)); *see also Gortat v. Capala Bros.*, 257 F.R.D. 353, 366 (E.D.N.Y. 2009) ("[F]iling a partial motion to dismiss will suspend the time to answer those claims [] that are not subject to the motion. If the opposite rule controlled . . . , the result would be 'a procedural thicket' of piecemeal answers that would poorly serve judicial economy." (internal citations omitted)).

again moves under Section 101 to dismiss Cirba's claim for infringement of the '687 patent.

III. SUMMARY OF ARGUMENT

1. The claims of the '687 patent do not satisfy the two-part test for patent eligibility under *Alice*. 573 U.S. at 217-18.

2. The '687 patent's claims are directed to the abstract idea of collecting and analyzing data. Humans have performed such data collection and analysis steps, whether mentally or by pencil and paper, since time immemorial. The claims thus fail *Alice* Step 1.

3. Under *Alice* Step 2, the claims must add an "inventive concept" to this abstract idea to be patentable. But the claims instead merely apply the abstract idea to a particular technological field—virtualized computer systems—using only conventional components in conventional ways. Because the claims also fail *Alice* Step 2, they are unpatentable.

4. Cirba's amendments to its complaint do not change the *Alice* analysis, because the relevant amendments are conclusory legal allegations, rather than specific, plausible, and adequate factual allegations regarding patentability under *Alice* Steps 1 and 2.

IV. STATEMENT OF FACTS

A. The '687 Patent

The '687 patent is entitled, "Method and System for Evaluating Virtualized Environments." The Abstract indicates that the evaluation is "for ongoing management" of a virtual environment in light of "changing requirements and a changing environment."

('687 patent at Abstract.) The specification identifies the relevant technical field as "information technology infrastructures," with the purported invention allegedly useful for "evaluating visualized [sic] environments." (*Id.* at 1:10-12.)

As the '687 patent explains, virtualization involves placing multiple instances of operating system ("OS") software (or "virtual guests") on a host computer (a "virtual host") to

form a virtual (or “virtualized”) environment. (*See id.* at 1:64-67, 2:27-40.) The specification also confirms that this type of virtualization was well known before the ’687 patent and identifies “VMware” as its first example of a “virtualization technology” vendor (*id.* at 1:64-2:2).

B. Representative Claim 7

Claim 7, the only claim specifically identified in the Complaint (FAC ¶¶ 68-69, 78, 99), is representative. It describes a method for “validating an existing virtualized environment.” At base, claim 7’s method consists of three steps: (1) obtaining data for a plurality of virtual machines related to various constraints; (2) evaluating the placement of the virtual machines in light of those constraints; and (3) identifying virtual machines with suboptimal placement.

The entire text of the claim appears below, with the three action steps highlighted:

A method for validating an existing virtualized environment comprising a plurality of virtual machines placed on one or more virtual hosts, said method comprising:

obtaining a data set for each of said plurality of virtual machines, each data set comprising information pertaining to technical, business and workload constraints associated with a corresponding virtual machine;

evaluating the placement of said virtual machines in said virtualized environment using said data sets by evaluating each virtual guest against each virtual host and other virtual guests using one or more rule sets pertaining to said technical, business and workload constraints to determine guest-host placements; and

identifying the existence of virtual machines with suboptimal placements to enable alternative placements for said virtual machines.

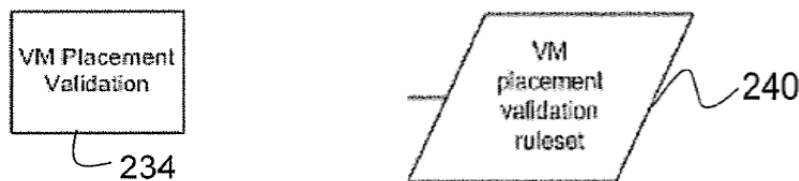
(’687 patent at 38:57-39:5.)

Claim 7 does not identify specific computer hardware or software (*e.g.*, a processor or memory). But the claim apparently involves at least a generic computer environment, because it refers to “virtual machines” and “virtual hosts,” consistent with the specification’s discussion of information technology infrastructure. (*See id.* at claim 7, 1:64-2:2, 6:41-43, 24:44-48.)

Claim 7 recites no technical details for performing its “obtaining,” “evaluating,” and “identifying” steps. Nor does it offer any specific or concrete solutions for achieving the desired outcomes. Among other things, the claim does not:

- Identify *how* to obtain data;
- Specify particular *types* of data or data structures;
- Identify evaluation *rules*, or even specific limits on those rules, instead referring only to broad categories (*i.e.*, “technical,” “business,” and “workload”);
- Explain *how* to evaluate the placement of the virtual machines using the “data sets” and “constraints”; or
- Specify criteria for assessing whether a placement is “suboptimal.”

The specification similarly provides scant detail regarding the elements of the claimed method steps, instead generically pointing to black boxes performing the claimed functionality. (*See, e.g.*, ’687 patent at Figs. 42 & 43, 34:30-35:23.) For example, claim 7’s “evaluating step” and “rule set” correspond to the boxes 234 and 240, depicted below, from Figures 42 and 43:



Neither box—nor the related description from the specification—provides details about the “evaluating” step or the “rule set.”

The specification instead teaches that the claim elements were conventional and well-known before the purported invention. For example, the patent’s “Background” describes the conventional system components employed by virtualization systems:

Virtualization involves virtualizing a physical system as a separate guest OS [virtual guest] instance on a host machine [virtual host]. This enables multiple virtualized systems to run on a single

physical machine, e.g. a server. Examples of virtualization technology include VMware®, Microsoft Virtual Server®, IBM LPAR®, Solaris Containers®, Zones®, etc.

(*Id.* at 1:64-2:2.) The specification later indicates that prior art virtualization hosts and management frameworks—including those from VMware—“typically provide[d] [interfaces] to collect . . . configuration and workload data.” (*Id.* at 34:49-53.)

C. Other Claims

The ’687 patent’s other claims involve the same general functionality as claim 7, and similarly deal only in generalities. For example, while claim 2 refers to “generating a virtual environment,” “rebalancing systems,” and “refining the environment,” it provides no details about how to accomplish these abstract steps. Regarding “rebalancing” and “refining,” the claim only describes those steps as involving the use of “virtual design scenarios.” Likewise, computer-readable media (“CRM”) claim 13 and its dependent claim, claim 16, cover the same general functionality as method claims 2 and 7. These claims recite, among other things, “designing a virtualized environment,” “obtaining a data set,” “performing a . . . compatibility analysis,” and “evaluating” virtual guests using “rule sets.”

Besides being non-specific, the steps of the other claims in the patent involve routine tasks well-known in the art. The specification, for example, indicates that “virtualizing a physical system,” “avoid[ing] redundancies and/or under-utiliz[ation],” and “evaluat[ing]” “cost-savings objective[s]” using “consolidation strategies” all were well known in the art before the ’687 patent. (*Id.* at 1:64-65, 1:30-34, 1:57-63.)

V. LEGAL STANDARD

As the Supreme Court held in *Alice*, “abstract ideas are not patentable.” *Alice*, 573 U.S. at 216 (quotation and citation omitted). *Alice* established a two-step test for determining patent eligibility. First, the court determines whether the claims are “directed to” a patent-ineligible

abstract idea. *Id.* at 217-18. If so, the court considers the claim limitations to assess whether they transform the claim into a patent-eligible application of the abstract idea. *See id.*

“[T]he Federal Circuit has repeatedly affirmed [the] early resolution of patent eligibility challenges,” including challenges at the pleading stage via 12(b)(6) motions. *Citrix Sys., Inc. v. Avi Networks, Inc.*, 363 F. Supp. 3d 511, 520 (D. Del. 2019). “In ruling on a 12(b)(6) motion, a court need not accept as true allegations that contradict matters properly subject to judicial notice or by exhibit, such as the claims and the patent specification.” *Secured Mail Sols. LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 913 (Fed. Cir. 2017).

A court also is not required to construe the claims before performing a Section 101 analysis. *See Bancorp Servs., LLC v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1273-74 (Fed. Cir. 2012). As this Court has recognized, “[i]n some cases, claim construction is unnecessary because it is not disputed that the Section 101 eligibility decision does not turn on disputes regarding claim construction.” *M2M Sols. LLC v. Amazon.com, Inc.*, No. 17-202-LPS-CJB, 2017 WL 6294874, at *4 (D. Del. Dec. 11, 2017).

VI. ARGUMENT

A. The Asserted Claims of the ’687 Patent Are Directed to an Abstract Idea.

1. The asserted claims are directed to the abstract idea of collecting and analyzing data.

As both the Federal Circuit and courts in this District have repeatedly held, “collecting information, analyzing it, and displaying certain results of the collection and analysis” are “a familiar class of claims ‘directed to’ a patent-ineligible concept.” *Elec. Power*, 830 F.3d at 1353; *see also Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1378, 1384-85 (Fed. Cir. 2019) (collecting and analyzing market data abstract, quoting *Elec. Power*); *SAP Am., Inc. v. Investpic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (collecting and analyzing financial data abstract,

quoting *Elec. Power*); *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1344-45 (Fed. Cir. 2018) (collecting cases); *Search & Soc. Media Partners, LLC v. Facebook, Inc.*, 346 F. Supp. 3d 626, 634-35 (D. Del. 2018) (in context of social computer network, “collecting, analyzing, and displaying information, without more, is an abstract idea”), *reconsideration denied*, 2019 WL 581616, at *6-*7 (D. Del. Feb. 13, 2019); *Uniloc USA, Inc. v. ADP, LLC*, No. 2018-1132, 2019 WL 2245938, at *9 (Fed. Cir. May 24, 2019) (claim directed to abstract idea of “license management method that indicates a user’s authorization to access an application”).

The claims in *Electric Power*, for example, involved monitoring an electric power grid network in real time and assessing vulnerabilities, such as grid stress and instability. 830 F.3d at 1352. The representative claim’s limitations included: (i) receiving data of various types and from various sources, both on and off the grid; (ii) detecting and analyzing events based on that data; (iii) deriving various metrics from the data; (iv) displaying the data and the analysis results; and (v) updating the measurements. *See id.* The claims also included an evaluation step, namely, “deriving a composite indicator of reliability that is an indicator of . . . vulnerability.” *Id.* Describing the claims as merely directed to “collecting information, analyzing it, and displaying certain results of the collection and analysis,” the Federal Circuit deemed them to be patent-ineligible. *Id.* at 1353.

Here, representative claim 7 (D.I. 12 at 12) is directed to the same abstract idea of collecting and analyzing information as the claims in *Electric Power*. Claim 7 recites:

1. “Obtaining a data set” (*i.e.*, collecting information);
2. “Evaluating the placement of . . . virtual machines . . . using one or more rule sets” (*i.e.*, analyzing information); and
3. “Identifying the existence of virtual machines with suboptimal placements” (*i.e.*, analyzing information).

Collecting and analyzing data is a patent-ineligible abstract idea even if further actions

are taken based on that data collection and analysis. *See, e.g., SAP Am.*, 898 F.3d at 1167 (claims patent-ineligible when they involved “reporting or displaying the results of the analysis”); *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093 (Fed. Cir. 2016) (“provid[ing] notification” of improper access to personal health information based on data analysis); *Elec. Power*, 830 F.3d at 1352, 1354 (“deriving a composite indicator of reliability” and “displaying the results” of data analysis).

Here, the steps in the claims of identifying suboptimal placements (claim 7), evaluating to determine placements (claim 13), or managing placements in a virtual environment, such as refining and rebalancing based on data analysis (claims 2 and 16), do not render the claims any less abstract than those that the Federal Circuit has found patent-ineligible. *See, e.g., Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1338-40 (Fed. Cir. 2017) (“dynamically managing” and “manipulating” the data do not confer patent eligibility for claim reciting “a component that detects modification of the data . . . , and in response thereto modifies a data component in an XML document”).

Claim 7 is representative of the other asserted claims, because all are “substantially similar and linked to the same abstract idea.” *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1348 (Fed. Cir. 2014). Claim 13 claims the same abstract concept of collecting and analyzing data, only styled as a computer readable medium claim. Claim 2 merely adds general management steps to claim 7’s data collection and analysis steps, such as “rebalancing” and “refining” the virtual environment based on collecting and analyzing information. And claim 16 does the same for claim 13. (*Cf.* D.I. 12 at 16 (confirming that claims 2, 13, and 16 involve “the same functionality” as claim 7).)

2. The claims are not directed to improving computer functionality.

Patents that seek to claim “certain independently abstract ideas that use computers as

tools,” but without offering any “improvement in computers as tools,” are invalid for lack of patentable subject matter. *Elec. Power*, 830 F.3d at 1354. The use of “generic” computer components to implement an abstract idea “do[es] not render the claims any less abstract.” *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1367-68 (Fed. Cir. 2015). Moreover, the “mere automation of manual processes using generic computers does not constitute a patentable improvement in computer technology.” *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055 (Fed. Cir. 2017).

Representative claim 7 epitomizes an unpatentable abstract idea using computers as tools. Claim 7 does not identify any specific hardware elements, an operating system, an arrangement for its “virtual machines,” or even a particular algorithm for its “one or more rule sets.” It merely identifies steps to take—obtaining data regarding constraints, evaluating the data, and identifying suboptimal placements of virtual machines—without claiming any particular way of doing so. Whether claim 7 improves the functionality of virtual computer environments is irrelevant, as that alleged technical benefit “flow[s] solely from performing an abstract idea in conjunction with well-understood structure.” *Citrix*, 363 F. Supp. 3d at 522.

Nor are the other claims directed to improving computer functionality. Although claim 2’s stated purpose is to “manag[e] a virtualized environment,” its recited steps (*e.g.*, “facilitating the deployment of [a] virtualized environment”) lack detail as to how to accomplish that purpose. And like claim 7, claim 2 also does not expressly require the use of computers to perform the recited steps. Even if the claims were “intended to be used in conjunction with computer-based . . . tools,” the claims are “not confined to that conception,” and “[t]he § 101 inquiry must focus on the language of the [a]sserted [c]laims themselves.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016).

Claims 13 and 16 fare no better in applying a set of instructions to “systems.” Even if these claims “limit the abstract idea to a particular environment—a [computer] system, that does not make the claims any less abstract for the step 1 analysis.” *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016). Like claim 7, these claims are directed to the abstract idea of collecting and analyzing data.

The claims of the ’687 patent are even more abstract than the claims found ineligible in *TLI Communications*, where the Federal Circuit found that “concrete, tangible components” were actually recited. 823 F.3d at 611. While the claims here may be intended for a computing environment, they are not directed to improving computer functionality. They do not recite any specific computer or hardware component, but only generic computer components in functional terms. As the specification explains, “[t]he principles and algorithms discusse[d] are applicable to *any system* having a plurality of subsystems.” (’687 patent at 37:16-20 (emphasis added).)

Moreover, the claims do not improve upon conventional optimization tools. Nothing in the claims recites any specific, concrete solutions to any optimization problem, or specific techniques or structures for achieving those solutions. Instead, they merely claim carrying out purported optimization at a generic, functional level—such as “identifying . . . suboptimal placements” (claim 7), “evaluat[ing] . . . to determine guest-host placements” (claim 13), and “rebalancing” or “refining” “according to” “virtual design scenarios” (claims 2 and 16). If a “claim is wholly functional,” as here, “and does not include the specificity required to transform a claim from one claiming only a result to one claiming a way of achieving it,” it is directed to an abstract idea. *Uniloc*, 2019 WL 2245938, at *7 (quotation and citation omitted).

3. The fact that the claims can be performed mentally or with a pencil and paper confirms that they are directed to an abstract idea.

Ideas that could be implemented mentally or via pencil and paper remain abstract even

when automated using computer software or hardware. *See, e.g., CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372 (Fed. Cir. 2011) (claims that “can be performed in the human mind, or by a human using a pen and paper,” are directed to an “unpatentable mental process[]”); *Synopsys*, 839 F.3d at 1147.

The abstract idea underlying the ’687 patent—collecting information and then evaluating that information to assess or manage performance under constraints—indisputably can be done mentally or with a paper and pencil. Walking through the steps of claim 7 confirms as much:

- Step 1. Collect a data set for the several virtual machines running on a host, the data set including a technical parameter (*e.g.*, the identity of the OS), a business parameter (*e.g.*, the physical location), and a workload parameter (*e.g.*, resource utilization, such as memory usage). For example, this could be done mentally, by pulling up the relevant data on a computer screen for review, or via pencil and paper, by printing out a copy of the relevant data.
- Step 2. Evaluate the placement of each of the virtual machines against each other, using a defined rule set (*e.g.*, a rule that the memory used by each of the virtual machines running on a Windows host computer in Wilmington, Delaware, not be more than a certain amount). For example, this could be done mentally, by comparing the data on the screen against known (memorized) rules, or via paper and pencil, by comparing a print out of the relevant data against a print out of the relevant rules.
- Step 3. Identify the existence of virtual machines with suboptimal placements (*e.g.*, too much memory used) to enable their alternative placement (*e.g.*, moving the virtual machine to another host). For example, this could be done mentally, by identifying suboptimal placements based on discrepancies between the data on the screen and known (memorized) rules, or via paper and pencil, by identifying suboptimal placements based on discrepancies between the printed data and the printed rules, and underlining or otherwise marking those suboptimal placements.

Like the ineligible claims in *FairWarning*, the ’687 patent’s steps are “the same [steps] (though perhaps phrased with different words) that humans in analogous situations . . . have [used] for decades.” 839 F.3d at 1094-95. This is true even in the context of managing information technology infrastructure and computer resources, as the specification acknowledges. The specification explains that, with prior art distributed systems, “choosing

appropriate consolidation solutions [allegedly was] difficult, error-prone and time consuming.” (’687 patent at 2:12-21.) But, as multiple courts have held, merely automating that consolidation process or rendering it more efficient does not render the idea any less abstract. *See Bancorp*, 687 F.3d at 1279 (claim ineligible even if “the computer . . . performs more efficiently what could otherwise be accomplished manually”); *see also Parker v. Flook*, 437 U.S. 584, 586 (1978) (claims directed to “computations [that] can be made by pencil and paper” unpatentable even if “primarily useful for computerized calculations”); *Trading Techs*, 921 F.3d at 1378 (“providing information to traders in a way that helps them process information more quickly” an abstract idea); *Uniloc*, 2018 WL 2245938, at *9 (“This is not an improvement in network architecture—it is the use of a computer as a tool to process information.”); *Citrix*, 363 F. Supp. 3d at 523 (claims directed to an abstract idea where “the technological context is computer networks, and the purported benefits arise from *more accurate determination* of whether a network service is available”) (emphasis added).

B. The ’687 Patent Claims Do Not Include an Inventive Concept.

1. The claims’ use of general-purpose computer components in conventional ways is not inventive.

An abstract idea does not become patent-eligible when “the claims simply instruct the practitioner to implement the abstract idea with routine, conventional activity,” such as through a “general purpose computer.” *Ultramercial Inc. v. Hulu, LLC*, 772 F.3d 709, 715-16 (Fed. Cir. 2014). The Federal Circuit has confirmed repeatedly that implementation via conventional computer components does not add an inventive concept. *See Credit Acceptance*, 859 F.3d at 1056 (“user terminal” not inventive); *Content Extraction*, 776 F.3d at 1347-48 (“memory” not inventive); *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1374-75 (Fed. Cir. 2017) (“interface” and “memory” not inventive); *SAP Am.*, 898 F.3d at 1170 (“generic

parallel processing components . . . on which the claimed method could run” not inventive).

Here, the ’687 patent uses generic, functional computer components and network terms in conventional ways. The specification acknowledges that virtualization technology was well-known before the ’687 patent. (*See* ’687 patent at 34:42-60 (listing prior “[e]xamples of virtualization management frameworks,” including VMware DRS).) The “virtual machines,” “virtual guest[s],” “virtual host[s],” and “physical systems” in claims 2, 7, 13, and 16 are components of prior art virtualized systems and were themselves well-known and therefore non-inventive. The specification’s “Background” section teaches that:

Virtualization involves virtualizing a physical system as a separate guest OS [virtual guest] instance on a host machine [virtual host]. This enables multiple virtualized systems to run on a single physical machine, e.g. a server. Examples of virtualization technology include VMware®, Microsoft Virtual Server®, IBM LPAR®, Solaris Containers®, Zones®, etc.

(*Id.* at 1:64-2:2; *see also, e.g., id.* at 26:5-9 (listing various prior art “virtual guests,” including Windows® Server 2003 and 2008 and Linux Enterprise Server).)

Such “off-the-shelf, conventional computer, network, and display technology for gathering, sending, and presenting the desired information” cannot overcome *Alice* step 2. *Elec. Power*, 830 F.3d at 1355; *accord TLI Commc’ns*, 823 F.3d at 615 (“[V]ague, functional descriptions of server components are insufficient to transform the abstract idea into a patent-eligible invention.”); *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1339 (Fed. Cir. 2017) (claims requiring only conventional computer components invalid).

The specification here confirms the claims’ functional nature and reliance on conventional virtualization technologies. For example, the specification points to nondescript black boxes 234 and 240 when describing claim 7’s “evaluating” step and “rule set.” (*See, e.g.,* ’687 patent at Figs. 42 & 43, 34:30-35:23.) Contradicting Cirba’s claim that “[r]ule sets [are]

described in detail in the '687 patent" (FAC ¶ 66), the specification generically describes "rule sets" as "groupings of rules that represent higher level considerations such as *business objectives* and *administrative concerns . . .*" ('687 patent at 12:1-4 (emphasis added).) And the claims themselves (the focus of the analysis) do not identify express limits on those rules—much less explain how general "business" and "administrative"-related rules can improve upon virtualization infrastructure. Even if those rules provided "a new source or type of information"—which they do not, they are still generically described like the "user identity based policy," "administrator policy override definition," and "user policy override definition" in *Uniloc*. They, therefore, are "still abstract information that, as such, does not contribute to any inventive concept." 2018 WL 2245938, at *9.

2. Limiting the abstract idea to the technological context of virtualized computer systems does not provide an inventive concept.

Cirba cannot overcome *Alice* step 2 by arguing that its claims limit the abstract idea of collecting and analyzing data to the particular technological context of virtualized computer systems. Indeed, "the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment." *Alice*, 573 U.S. at 222-23 (quoting *Bilski v. Kappos*, 561 U.S. 593, 610-11 (2010)). This is true even if applying the abstract idea in a particular technological environment was novel. *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1263 (Fed. Cir. 2016) ("[T]he fact that some of those steps had not previously been employed in the art was not sufficient, standing alone, to confer patent eligibility upon the claims at issue.") (quotation and citation omitted).

The Federal Circuit has repeatedly reaffirmed this principle. In *BSG Tech LLC v. Buyseasons, Inc.*, the court explained that "it is irrelevant whether [analyzing and evaluating data] may have been non-routine or unconventional as a factual matter." 899 F.3d 1281, 1291

(Fed. Cir. 2018). “As a matter of law, narrowing or reformulating an abstract idea does not add ‘significantly more’ to it.” *Id.* Likewise, in addressing claims to the novel display of profit-and-loss values on a trading screen, the court held that “a claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept.” *Trading Techs.*, 921 F.3d at 1385 (even if the claims recited a novel display of P&L values on a trading screen) (quotation and citation omitted); *see also SAP Am.*, 898 F.3d at 1169-70 (limiting claims for “an advance in mathematical techniques in finance” to the particular field of “investment information” did not confer patent eligibility); *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 774 (Fed. Cir. 2019) (making electric vehicle charging stations “network-controlled” did not provide the inventive concept even if unconventional, as “network control is the abstract idea itself”).

This Court, too, has recognized that limiting or applying an abstract idea to a particular technological context is not enough to confer patent eligibility. For example, in *Search & Social Media Partners*, that the claims were limited to the technological context of a social network was insufficient to make them patentable. 346 F. Supp. 3d at 637. Likewise, in *Citrix*, the allegedly novel, unconventional use of dynamic response time could not “provide an inventive concept,” “no matter how beneficial when applied in a technical context.” 363 F. Supp. 3d at 523.

Here, the particular ordered combination of the claimed “obtaining,” “evaluating,” and “identifying” steps cannot render the claims inventive. As explained above, one can perform the ordered combination of steps (whether as recited in the method claims or computer-readable medium claims) manually with a pencil and paper. Although the ’687 patent purports to make that performance less “difficult, error-prone and time consuming,” nowhere does it allege that the ordering of steps is somehow novel. (’687 patent at 2:12-21.)

C. Cirba’s Conclusory Allegations Cannot Satisfy *Alice* Steps 1 and 2.

When Cirba amended its complaint, it added allegations relating to the patentability of

the '687 patent, alleging that the '687 patent satisfies parts of the legal standards governing *Alice* Step 1 and Step 2. (See FAC ¶¶ 63-67.) But Cirba's conclusory legal allegations fail to make the abstract idea claimed in the '687 patent patentable, in part because a court "is not bound [at the 12(b)(6) stage] to accept as true a legal conclusion couched as a factual allegation." See *Hearts Bluff Game Ranch, Inc. v. United States*, 669 F.3d 1326, 1328 (Fed. Cir. 2012) (quoting *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544, 555 (2007)).

Most obviously, Cirba's bare legal assertions are not the type of concrete, specific, plausible, and adequate factual allegations that might warrant denial of a motion to dismiss under Section 101. Cf. *Cellspin Soft, Inc. v. Fitbit, Inc.*, No. 2018-1817, 2019 WL 02588278, at *8 (Fed. Cir. June 25, 2019). Instead, Cirba simply parrots the language of the relevant legal standards and case law. For example, it asserts that the '687 patent "provides a technological solution to a problem of computer technology, improving the way server networks function"; "provides a non-conventional technique"; "addresses the shortcomings in prior systems"; "improves the function of servers as compared to prior systems"; and provides benefits that are "not well-known or conventional." (FAC ¶¶ 63-65, 67.) Without concrete, specific, and plausible factual allegations on how the '687 patent claims provide these purported benefits, or how they are unconventional or unknown, Cirba's allegations cannot establish patentability. See *IPA Techs. v. Amazon.com, Inc.*, 352 F. Supp. 3d 335, 349 (D. Del. 2019) (a court is "not required to treat boilerplate allegations that the claims are directed to new computer functionality and improvements to technological processes as true where those allegations contradict the language of the claims and specification"). As in *IPA Techs.*, Cirba's "boilerplate allegations do not change the fact that the specification is replete with references to implementing the claims using conventional technology." See *id.*; '687 patent at 1:57-2:2, 26:5-9, 34:49-53.

Similarly, Cirba’s bald assertions that the claims are directed to an improvement in computer technology (presumably for purposes of *Alice* Step 2)—that the ’687 patent provides an “improvement in the way virtualized servers function,” (FAC ¶ 64), “improving efficiency” and “reducing errors” (*id.* ¶ 65)—do not identify concrete, specific, and plausible ways that the *claims* are directed to improvements in computer technology, rather than improvements arising from implementing an abstract idea in a particular technological context using computers. The Federal Circuit has differentiated between (i) patentable claims directed to improving computer technology itself, and (ii) ineligible claims that merely improve efficiency by using “the ordinary capabilities of a general-purpose computer” in a particular technological context. *See Intellectual Ventures I LLC v. Erie Indem. Co.*, 711 F. App’x 1012, 1016-17 (Fed. Cir. 2017). Here, the claims of the ’687 patent do not improve computer technology itself, but instead allegedly improve the performance and efficiency of managing to constraints—purporting to automate decision-making regarding how to use resources—by using “the ordinary capabilities of a general purpose computer” to collect and analyze data in the particular technological context of virtualized machines. *See id.* at 1017. The specific efficiency gains that Cirba alleges here, *e.g.*, “reducing redundancies and under-utilized hardware, reducing or eliminating unnecessary processing capacity and incompatibilities,” and “decreasing heat and power consumption” (FAC ¶ 65)—thus are attributable to implementing the abstract idea in the specific technological context of virtualized machines, rather than to the claims. *See RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) (“To save a patent at step two, an inventive concept must be evident *in the claims.*”) (citing *Alice*, 573 U.S. at 221) (emphasis added).

Cirba’s conclusory allegations regarding whether the abstract idea of the ’687 patent can be performed manually or with a pen and paper similarly focus on the improved performance

and increased efficiency provided by implementing its method on a conventional, general purpose computer. But the greater efficiency and accuracy provided by a computer implementation cannot render an abstract idea patentable. *See Bancorp*, 687 F.3d at 1279; *Citrix*, 363 F. Supp. 3d at 523. While Cirba alleges that the “virtually infinite number of possible consolidation permutations make it impossible to choose the appropriate consolidation with mental processes,” and doing so manually “would not achieve the results described in the ’687 patent,” Cirba also quotes the specification’s statement that performing the claimed tasks manually would be “difficult, error-prone, and time consuming.” (FAC ¶ 63.) Cirba thus alleges that performing the claims manually (at least) is possible, even if performing the claims using a computer provides greater efficiency and accuracy. As the Federal Circuit and this Court have made clear, claims directed to an abstract idea are not patentable even if a computer implementation “performs more efficiently what could otherwise be accomplished manually” (*Bancorp*, 687 F.3d at 1279) or is “more accurate” (*Citrix*, 363 F. Supp. 3d at 523).

Finally, Cirba’s inclusion in its amended complaint of additional quotes from the specification—which is part of the record for purposes of a motion to dismiss under Section 101 regardless—does not change the analysis under *Alice*. *See IPA Techs.*, 352 F. Supp. 3d at 349 (“[N]ew allegations [in FAC that] simply quote, cite or otherwise incorporate language from the claims and specification . . . add no new factual information for the Court to consider in [the *Alice* analysis].”) The specification’s discussion of data analysis using “rules [that] can check for name conflicts” is something that can be done mentally or manually, and thus is an abstract idea applied to conventional computer concepts such as “system names, database instance names, user names, etc.” (FAC ¶ 66 (quoting ’687 patent at 12:32-33.)) And Cirba’s allegations regarding generic rules “referenc[ing] common parameters” to “perform different tests to

identify different forms of incompatibilities that may have different levels of importance” (*id.* (quoting ’687 patent at 12:19–22)) are analogous to the generic “user identity based policy,” “administrator policy override definition,” and “user policy override definition” considered in *Uniloc*. *See* 2018 WL 2245938, at *9. As in *Uniloc*, the rules alleged here are “still abstract information that, as such, does not contribute to any inventive concept.” *See id.*

Similarly, Cirba’s allegations regarding the specification’s discussion of “conducting compatibility analyses,” asserting that the ’687 patent’s “analytics” provide “specific improvement over prior systems that is not well-known or conventional” (FAC ¶ 67), does not render the claims patentable under *Alice* Step 2. As the specification states, the so-called “multi-dimensional . . . analysis” merely consists of comparing source computer systems to be virtualized against each other (N-by-N) or a target host (N-to-1), or comparing one source against a target host (1-to-1). (’687 patent at 19:62-67.) The patent admits that this “multi-dimensional” analysis is “analogous” to 1-to-1 analysis (*i.e.*, analyzing the compatibility between one source physical system and one target host). (*See id.* at 19:65-67.) The alleged compatibility analysis is thus just another form of data analysis—an abstract idea that can be performed by humans mentally or manually (*e.g.*, by comparing a print out of the source system’s parameters against the host’s to verify that the host has sufficient memory and storage to accommodate the source system). It cannot provide an inventive concept.

VII. CONCLUSION

For these reasons, VMware requests that the Court dismiss with prejudice Claim I of Cirba’s First Amended Complaint and deny Cirba’s related request for a preliminary injunction.

Dated: July 2, 2019

OF COUNSEL:

Michael A. Jacobs
Richard S. J. Hung
MORRISON & FOERSTER LLP
425 Market Street
San Francisco, CA 94105
(415) 268-7000
mjacobs@mofo.com
rhung@mofo.com

Bitra Rahebi
MORRISON & FOERSTER LLP
707 Wilshire Boulevard
Los Angeles, CA 90017
(213) 892-5200
brahebi@mofo.com

Scott F. Llewellyn
MORRISON & FOERSTER LLP
4200 Republic Plaza
370 Seventeenth Street
Denver, CO 80202-5638
(303) 592-2204
sllewellyn@mofo.com

01:24682836.1

YOUNG CONAWAY STARGATT &
TAYLOR, LLP

/s/ Anne Shea Gaza

Anne Shea Gaza (No. 4093)
Samantha G. Wilson (No. 5816)
Rodney Square
1000 North King Street
Wilmington, DE 19801
(302) 571-6600
agaza@ycst.com
swilson@ycst.com

Attorneys for VMware, Inc.

CERTIFICATE OF SERVICE

I, Anne Shea Gaza, hereby certify that on July 2, 2019, I caused to be electronically filed a true and correct copy of the foregoing document with the Clerk of the Court using CM/ECF, which will send notification that such filing is available for viewing and downloading to the following counsel of record:

Kenneth L. Dorsney, Esquire
Morris James LLP
500 Delaware Avenue, Suite 1500
Wilmington, DE 19801
kdorsney@morrisjames.com

Attorney for Plaintiffs

I further certify that on July 2, 2019, I caused the foregoing document to be served via electronic mail upon the above-listed counsel and on the following:

Courtland L. Reichman, Esquire
Shawna L. Ballard, Esquire
Jennifer Estremera, Esquire
Phillip Lee, Esquire
Michael G. Flanigan, Esquire
Joachim B. Steinberg, Esquire
Kate Falkenstien, Esquire
Reichman Jorgensen LLP
303 Twin Dolphin Drive, Suite 600
Redwood Shores, CA 94065

Sarah O. Jorgensen, Esquire
Reichman Jorgensen LLP
1201 West Peachtree Street, Suite 2300
Atlanta, GA 30309

Christine E. Lehman, Esquire
Reichman Jorgensen LLP
1615 M Street, N.W., Suite 300
Washington, DC 20035

Jaime F. Cardenas-Navia, Esquire
Wesley Lanier White, Esquire
Reichman Jorgensen LLP
100 Park Avenue, Suite 1600
New York, NY 10017

RJ_densify@reichmanjorgensen.com

Attorneys for Plaintiffs

Dated: July 2, 2019

YOUNG CONAWAY STARGATT &
TAYLOR, LLP

/s/ Anne Shea Gaza
Anne Shea Gaza (No. 4093)
Samantha G. Wilson (No. 5816)
Rodney Square
1000 N. King Street
Wilmington, Delaware 19801
agaza@ycst.com
swilson@ycst.com

Attorneys for Defendant